```
=> d his

     (FILE 'USPAT' ENTERED AT 15:14:01 ON 11 FEB 1998)
L1       240019 S (PARTICULATE# OR PARTICLE# OR DUST# OR HAZARD? OR TOXIC?
 OR
L2        63496 S L1 AND (AEROSOL OR ATOM?)
L3        49599 S L2 AND (BIND? OR BOUND? OR STICK? OR TACK? OR ADHER? OR
COA
L4         3296 S L3 AND (ULTRASOUND OR ULTRASONIC)
L5          143 S L4 AND INHAL?
L6         3140 S L4 AND (AIR OR SPACE# OR AREA# OR ATMOSPHER? OR ENVIRONM
ENT
L7          422 S L6 AND ENCAPSULAT?
L8         1169 S L6 AND FILTER#
L9         1215 S L6 AND RELEAS?
L10        1106 S L9 AND REMOV?
L11         506 S L10 AND FILTER#
L12       72154 S (PARTICLE# OR PARTICULATE# OR DUST# OR CONTAMIN? OR TOXI
C?
L13       72154 S (PARTICLE# OR PARTICULATE# OR DUST# OR CONTAMIN? OR TOXI
C?
L14        5691 S L13 AND (AEROSOL OR ATOMIZ?)
L15        5450 S L14 AND (ATMOSPHER? OR AIR OR ARE# OR SPACE# OR ENVIRONM
ENT
L16       77513 S (PARTICLE# OR PARTICULATE# OR DUST# OR CONTAMIN? OR TOXI
C?
L17        6081 S L16 AND (AEROSOL OR ATOMIZ?)
L18        4678 S L17 AND AIR
L19        1659 S L17 AND ENVIRONMENT
L20        2355 S L17 AND ATMOSPHERE
L21         271 S L20 NOT L19 NOT L18

     FILE 'JPOABS' ENTERED AT 16:16:33 ON 11 FEB 1998
L22       20831 S (PARTICLE# OR PARTICULATE# OR DUST# OR CONTAMIN? OR TOXI
C?
L23         242 S L22 AND (AEROSOL OR ATOMIZ?)
L24         112 S L23 AND (AIR OR ENVIRONMENT OR ATMOSPHERE OR AREA# OR SP
ACE

     FILE 'EPOABS' ENTERED AT 16:28:55 ON 11 FEB 1998
L25        6988 S (PARTICLE# OR PARTICULATE# OR DUST# OR CONTAMIN? OR TOXI
C?
L26          69 S L25 AND (AEROSOL OR ATOMIZ?)
L27          30 S L26 AND (AIR OR SPACE# OR AREA# OR ATMOSPHERE OR ENVIRON
MEN

=> d 127 all 16,27

US 04335419A                Jun. 15, 1982              L27: 16 of 30
Insulated dust control apparatus for use in an explosive environment

INVENTOR:  EDWARD E HASTINGS
ASSIGNEE:  HASTINGS EDWARD E
APPL NO:  US 19873980A
DATE FILED:  Oct. 20, 1980
PATENT ABSTRACTS OF EUROPE
ABS GRP NO:
```

ABS VOL NO:
ABS PUB DATE:
INT-CL: B05B 5/02

ABSTRACT:

An apparatus is provided for producing a spray of **atomized** and electrostatically charged **particles** of liquid to remove oppositely charged pollutants from the **atmosphere**. The apparatus is particularly suited for use in a potentially explosive **atmosphere**. The apparatus includes a nozzle which receives liquid and compressed **air** and produces a high pressure spray of **atomized** liquid **particles**. A ring electrode coaxially surrounds the spray near the nozzle. The electrode is chargeable to a high electrostatic potential relative to the nozzle, whereby the liquid **particles** of the spray are inductively charged by passing the ring. The electrode is fully encased in a ring of insulating material. A grounded metal housing surrounds the ring of insulating material on all sides except the radially interior side thereof. The metal housing and ring of insulating material are **coated** on all exposed **surfaces** by a dip **coating** of insulating material.

DE 04318885A1 Jun. 16, 1994 L27: 27 of 30

Radioactive material handling process - involves mineral coating application to avoid particle or dust release

INVENTOR: RUEDIGER DIPL CHEM DR WUERTZ
ASSIGNEE: SIEMENS AG
APPL NO: DE 04318885A
DATE FILED: Jun. 7, 1993
PATENT ABSTRACTS OF EUROPE
ABS GRP NO:
ABS VOL NO:
ABS PUB DATE:
INT-CL:

ABSTRACT:

In a **radioactive** or **radioactively contaminated** material handling process, the novelty is that the material is provided with a mineral **coating**, pref. formed by applying an aq. silicate soln.. Pref., when the material is a **radioactively contaminated** material with **contaminating particles** on its **surface**, it is provided with a mineral **coating** which **binds** the **particles** and, when the material is metallic, a lime **coating** is provided under the mineral **coating**. USE/ADVANTAGE - In the handling of nuclear fuel or **radioactively contaminated** structural materials (e.g. concrete or metal). The **coating** prevents release of **radioactive particles** or **dust** into the **environment** and prevents access of **air** to the material **surface** to reduce corrosion and consequent **dust** or **aerosol** formation.

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=> d his

     (FILE 'USPAT' ENTERED AT 11:55:13 ON 11 FEB 1998)
L1       189877 S (PARTICULATE# OR PARTICLE# OR DUST OR HAZARD#) (P) (WALL
# O
L2         4784 S L1 AND AEROSOL
L3         3765 S L2 AND (ADHER? OR BIND? OR BOUND? OR STICK? OR TACK? OR
CAP
L4         2837 S L3 AND AIR?
L5          177 S L4 AND RADIOACTIVE
L6           25 S L5 AND (ULTRASONIC OR ULTRASOUND)
L7            0 S TI 1-25

     FILE 'JPOABS' ENTERED AT 12:05:32 ON 11 FEB 1998
L8        53113 S (PARTICULATE# OR PARTICLE# OR DUST OR HAZARD#) (P) (WALL
# O
L9           79 S L8 AND AEROSOL
L10          35 S L9 AND (STICK? OR BIND? OR BOUND? OR ADHER? OR COAT? OR
CAP
L11           0 S 1-35 TI

     FILE 'EPOABS' ENTERED AT 12:33:53 ON 11 FEB 1998
L12       22991 S (PARTICULATE# OR PARTICLE# OR DUST OR HAZARD) (P) (WALL#
 OR
L13         146 S L12 AND AEROSOL
L14          17 S L13 AND ((ADHER? OR BIND? OR BOUND? OR STICK? OR TACK? O
R C

     FILE 'USPAT' ENTERED AT 12:40:10 ON 11 FEB 1998
L15      184291 S (PARTICLE# OR PARTICULATE# OR DUST#) (P) (WALL# OR SURFA
CE#
L16       23044 S L15 AND (TOXIC OR HAZARD? OR RADIOACT?)
L17        8556 S L16 AND (ATOM? OR AEROSOL)
L18       54682 S L15 AND (CONTAMIN? OR HAZARD? OR TOXIC OR RADIOACT?)
L19       17377 S L18 AND (ATOM? OR AEROSOL)
L20        3850 S L9 AND (AIR OR ENVIRONMENT OR SPACE)
L21        2916 S L20 AND (BIND? OR BOUND? OR TACK? OR STICK? OR ADHER? OR
 CO
L22         317 S L21 AND (ULTRASONIC OR ULTRASOUND)
L23         149 S L22 AND (RELEAS? OR RESUSPEN?)
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=> d his

     (FILE 'HOME' ENTERED AT 12:55:05 ON 11 FEB 1998)

     FILE 'CAPLUS, JAPIO, USPATFULL, WPIDS' ENTERED AT 12:55:17 ON 11
     FEB 1998
L1       444288 S (PARTICLE# OR PARTICULATE3 OR DUST#) (P) (WALL# OR SURF
L2       469419 S (PARTICLE# OR PARTICULATE# OR DUST#) (P) (WALL# OR SURF
L3        69871 S L2 AND (CONTAMIN? OR TOXIC? OR HAZARD? OR RADIOACT?)
L4        58212 S L3 AND (AIR OR SPACE# OR AREA# OR ENVIRONMENT)
L5        17837 S L4 AND (AEROSOL OR ATOM?)
L6        14167 S L5 AND (BIND? OR BOUND? OR STICK? OR TACK? OR ADHER? O
L7          434 S L6 AND INHAL?
L8         1105 S L6 AND (ULTRASONIC OR ULTRASOUND)
L9          224 S L8 AND ((ULTRASONIC OR ULTRASOUND) (P) (ATOMIZ? OR AER

=> d l9 all 1


L9   ANSWER 1 OF 224  CAPLUS  COPYRIGHT 1998 ACS
AN   1997:283807  CAPLUS
DN   126:269643
TI   Method and apparatus for encapsulating particulates
IN   Berg, Robert O.; Rigby, William F.; Albers, John P.
PA   Encapsulation Technology, Llc, USA
SO   PCT Int. Appl., 29 pp.
     CODEN: PIXXD2
PI   WO 9709081 A1  970313
DS   W:  AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,
         EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR,
         LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,
         SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY,
         KG, KZ, MD, RU, TJ, TM
     RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,
         GR, IE, IT, LU, MC, NL, PT, SE
AI   WO 96-US14042  960830
PRAI US 95-3106  950901
DT   Patent
LA   English
IC   ICM  A61M011-00
     ICS  B01D047-06; B01J013-04; B05D001-02; G21F009-28
CC   71-10 (Nuclear Technology)
     Section cross-reference(s): 60
AB   An improved method and device for decontamination of a
     contaminated process area is provided whereby a
     fine aerosol of an encapsulant for use in encapsulating
     the contaminants within the contaminated
     environment is generated.  The aerosol is
     generated by a plurality of ultrasonic transducers located
     below the surface of a reservoir contg. a capture liq.
     The output of the transducers is focused to a point near the
     surface of the liq. to cause a surface disturbance
     which gave an aerosol of encapsulant from the capture liq.
     A pressurization fan is used to force ambient air through
     the pressurization chamber to transport the aerosol to the
     process are to be treated.  The aerosol forms a thin
     coating of encapsulant over the hazardous material
     thereby allowing the hazardous material to be safely
```

removed from the process **area** or permanently attached to the **walls** of the process **area**. If a chem. **hazardous** material is found in the process **area**, a capture liq. can be selected to neutralize the **hazardous** material. The process is esp. effective at recovering **radioactive dust** from a **contaminated** process **area**.

ST particulate encapsulation **aerosol radioactive** decontamination; safety **aerosol** formation decontamination

IT Aerosols
Decontamination
Microencapsulation
Particulate **air** pollution
Radioactive decontamination
Sound and **Ultrasound**
(method and app. for encapsulating particulates)

=> d his

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     (FILE 'USPAT' ENTERED AT 11:55:13 ON 11 FEB 1998)
L1       189877 S (PARTICULATE# OR PARTICLE# OR DUST OR HAZARD#) (P) (WALL
# O
L2         4784 S L1 AND AEROSOL
L3         3765 S L2 AND (ADHER? OR BIND? OR BOUND? OR STICK? OR TACK? OR
CAP
L4         2837 S L3 AND AIR?
L5          177 S L4 AND RADIOACTIVE
L6           25 S L5 AND (ULTRASONIC OR ULTRASOUND)
L7            0 S TI 1-25

     FILE 'JPOABS' ENTERED AT 12:05:32 ON 11 FEB 1998
L8        53113 S (PARTICULATE# OR PARTICLE# OR DUST OR HAZARD#) (P) (WALL
# O
L9           79 S L8 AND AEROSOL
L10          35 S L9 AND (STICK? OR BIND? OR BOUND? OR ADHER? OR COAT? OR
CAP
L11           0 S 1-35 TI
```

=> d l10 all 9,13,14,29

04-63169 Feb. 28, 1992 L10: 9 of 35

COATING METHOD WITH **AEROSOL**

INVENTOR: MASABUMI MATSUNAGA, et al. (1)
ASSIGNEE: NORDSON KK, et al. (50)
APPL NO: 02-171399
DATE FILED: Jun. 29, 1990
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C0951
ABS VOL NO: Vol. 16, No. 265
ABS PUB DATE: Jun. 16, 1992
INT-CL: B05D 1/02

ABSTRACT:

PURPOSE:To increase **coating** efficiency by heating an **aerosol** to a temp. above the temp. of a body to be **coated** during generation and/or transfer, condensing vapor of a solvent present in an atmosphere with **particles** of the **aerosol** in the atmosphere as nuclei, further condensing the vapor on the **surface** of the body to be **coated** and **sticking** the **particles** of the **aerosol** and the solvent on the body to be **coated**.

CONSTITUTION:A soln. L to be sprayed to increase the amt. of vapor or a carrier gas CG and/or an **aerosol** generator 1 is heated or a generated **aerosol** is further heated during transfer. A body Oa to be **coated** is set at the lower part of a **coating** booth. Since vapor of a solvent in the **aerosol** is in a satd. state at a temp. above the temp. of the body Oa, the vapor is condensed by the temp. difference with **particles** of the **aerosol** as nuclei and further condensed on the **surface** of the body Oa. Fine **particles** R carried by the carrier gas collide against drops formed by the condensation, the kinetic energy of the **particles** is absorbed in the drops to reduce the **bound** of

the **particles** and the **particles stick** on the drops. When a large number of such drops gather, a liq. film Sf is formed, covers the entire **surface** of the body Oa and can further reduce the **bound** of the fine **particles**.

02-189159 Jul. 25, 1990 L10: 13 of 35

COATING METHOD FOR **AEROSOL**

INVENTOR: MASABUMI MATSUNAGA, et al. (1)
ASSIGNEE: NORDSON KK, et al. (90)
APPL NO: 01-8322
DATE FILED: Jan. 17, 1989
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C0767
ABS VOL NO: Vol. 14, No. 459
ABS PUB DATE: Oct. 4, 1990
INT-CL: A61M 11/00

ABSTRACT:

PURPOSE:To improve **coating** efficiency by reducing the occurrence of **bound** of **aerosol particles** by a method wherein solvent steam is present in **aerosol**, a substance to be **coated** is cooled, **aerosol particles** are **adhered** on dewdrops, generated resulting from formation of dew of steam, e.g. a solvent, on the **surface** of the substance to be **coated**, or a liquid film by means of a line of electric force, and thereafter, the solvent is vaporized.

CONSTITUTION:Steam generated through gasification of a solvent is contained in **aerosol**. A cooling board 25 connected to a cooling device 23 is situated below a **coating** part, a substance Oa to be **coated** is placed thereon through an earthed plate 27 to cool the substance to be **coated**, and the temperature of the substance to be **coated** is by means of the temperature of solvent steam at the **coating** part. Reduction of the temperature causes solvent steam to produce dew Sc formed on the **surface** to be **coated**. **Particles** R carried by carrier gas are **adhered** on the dewdrops generated resulting from formation of the dew and accelerated by a line of electric force emitted toward the substance Oa to be **coated** from an electrode 26 for application of static electricity, and the line of electric force is collided with the **surface** of the substance to be **coated**. Movement energy of the **particles** is absorbed by liquid of the dewdrops, the occurrence of **bound** is reduced, and the **particles** are effectively **adhered** on the dewdrops by means of electrostatic attractive force. When a number of dewdrops are gathered, they form a liquid filmform substance Sf with which the whole **surface** of the substance to be **coated** is covered, and the occurrence of **bound** of the **particles** can be further reduced.t

02-122873 May 10, 1990 L10: 14 of 35

APPLYING METHOD FOR **AEROSOL**

INVENTOR: MASABUMI MATSUNAGA, et al. (1)
ASSIGNEE: NORDSON KK, et al. (40)
APPL NO: 63-277766
DATE FILED: Nov. 2, 1988
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C0742
ABS VOL NO: Vol. 14, No. 334
ABS PUB DATE: Jul. 18, 1990
INT-CL: B05D 7/24; //B05D 1/02

ABSTRACT:

PURPOSE:To **coat** a **surface** to be **coated** with **particles** efficiently by cooling a material to be applied down to the saturating point of solvent vapor, condensing the solvent vapor in **aerosol** on the material **surface** to be **coated** and **adhere** the **particles** of **aerosol**.

CONSTITUTION:**Aerosol** As composed of gas and fine **particles** is formed, and gas G is introduced from below a chamber 2 as carrier gas CG to feed **aerosol** As into a **coating** section 22. A cooling board 25 connected with a cooling device 23 is provided below the **coating** section 22, on which a material Oa to be **coated** is placed. The material Oa to be **coated** is cooled down to the temperature lower than that of solvent vapor at the **coating** section 22 and the solvent vapor is condensed Sc on the material **surface** to be **coated**. **Particles** R carried by carrier gas CG hit condensed dew drops, and kinetic energy of fine **particles** R is absorbed by the liquid of dew drops to reduce **bounding**, and the fine **particles** are **adhered** on the dew drops.a

61-21751 Jan. 30, 1986 L10: 29 of 35

PURIFICATION OF DUST IN AIR

INVENTOR: TSUMORU NAKAMURA, et al. (1)
ASSIGNEE: MITSUBISHI JUKOGYO KK
APPL NO: 59-143776
DATE FILED: Jul. 11, 1984
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C354
ABS VOL NO: Vol. 10, No. 172
ABS PUB DATE: Jun. 18, 1986
INT-CL: B03C 3/14; B03C 3/38

ABSTRACT:

PURPOSE:To collect dust hard to collect in a high dust removal ratio, by charging electrostatically charged particles into a dust removing **aerosol** and collecting particles having dust **adhered** thereto by a filter.

CONSTITUTION:Air of a clean environment 1 is supplied to a **dust** charging device 4 where **dust** receives a predetermined quantity of charge by single-pole corona discharge while the charged **dust** is sent to a duct 5 and mixed with **particles** electrostatically charged by an **particle** charging device 8 in this space to be flowed to a filter 6. In this flowing process, charged **dust** is efficiently **adhered** to the **surfaces** of electrostatically charged **particles**. Thereafter, the **dust** is collected along with **particles** by the filter 6. By this method, **dust** having a **particle** size range hard to collect is collected in a high **dust** removal ratio.